

## Appendix.1

### The job descriptions of the individuals involved in providing pain management in the ICU

No.	Job title	Education	Job description	The location of service provision
1	The head of ward	Anesthesiologist	<ul style="list-style-type: none"> <li>-The formulation of a written instruction for implementing pain management</li> <li>-Monitoring and assessing the correct implementation of pain management</li> <li>-Revision and correction of the executive process of pain management</li> <li>-Continuous pain relief, assessment, and monitoring</li> </ul>	ICU, Modarres hospital
2	Head nurse	MS in Nursing	<ul style="list-style-type: none"> <li>-Coordination and supervision during work shifts for the implementation of the pain management program</li> <li>-Making reports of the pain monitoring procedure for the head of the ward during each shift</li> <li>-Making reports of the problems and barriers to pain management in the patients of the ward, and receiving the appropriate strategies from the head of the ward</li> <li>-Providing constructive suggestions for proper and effective implementation of pain management to the head of the ward and the researcher</li> <li>-Providing feedback on the quality of pain monitoring in the ward to the researcher</li> <li>-Contribute to the installation and maintenance of posters of pain management algorithm in the ward</li> <li>-Cooperation with the researcher in providing data on the pain management process through electronic and non-electronic documentation available in the ward</li> <li>-Persuading and encouraging staff for participation in pain management retraining courses and the proper implementation of pain management algorithm</li> <li>-Introducing nurses who need more training in the proper implementation of pain management to the researcher for making necessary planning</li> <li>-The facilitation and provision of infrastructure for quick and easy access to injected narcotics and analgesics in each work shift and providing a dedicated depot</li> </ul>	ICU, Modarres hospital
3	Shift head	MS/BS in nursing	<ul style="list-style-type: none"> <li>-Delivering clinical information of patients in each shift based on the score obtained from the pain management scale and reviewing the pain management documentation</li> <li>-Make a report for the head of ward on the pain assessment procedure during each shift</li> <li>-Periodic observation of the pain monitoring procedure and pain quality assessment in patients during each shift</li> <li>-Introducing the nurses needing more training in the right implementation of pain management to the head nurse</li> </ul>	ICU, Modarres hospital
4	Nurse	MS/BS in nursing	<ul style="list-style-type: none"> <li>-Checking up on the behavioral signs for pain assessment in patients, and their vital signs (at least twice per shift)</li> <li>-Periodic pain assessment in shorter intervals in case of diagnosing moderate to severe pain, until effective pain control is achieved (according to the existing protocol: every hour)</li> <li>-Documenting pain management in the morning, evening and night shift reports</li> <li>-Handing over patients with a report containing pain severity and the taken measures</li> <li>-The implementation of pain management based on the written instructions of the head of ward (anesthesiologist)</li> <li>-Adherence to the procedures of pain management algorithm installed at the patients' bedside to provide diagnosis and pain relief services</li> <li>-Informing the researcher and the head nurse of the ward in case of having any problems with pain management</li> </ul>	ICU, Modarres hospital
5	Nurse assistant	Diploma/BS	<ul style="list-style-type: none"> <li>-Assisting nurses in the implementation of non-pharmacological pain relief techniques such as massaging, position change, and other necessary techniques</li> <li>-Accelerating the provision of on-demand analgesics for nursing staff</li> </ul>	ICU, Modarres hospital

6	Clinical supervisor	MS in nursing	<ul style="list-style-type: none"> <li>-Observing the proper implementation of pain management during work shifts (morning, evening, and night shifts)</li> <li>-Receiving the periodic reports from the ward's head nurse on the quality and the procedures of pain monitoring in patients</li> <li>-Periodic and unplanned presence at patients' bedside and the assessment of pain management implementation and documentation</li> </ul>	ICU, Modarres hospital
7	Matron	MS in nursing	<ul style="list-style-type: none"> <li>-Issuing certificates for the researcher and the other members of treatment team for the implementation of pain management based on the pain management algorithm</li> <li>-Periodic assessment of the process of correct pain management implementation by receiving oral and written reports from the educational and clinical supervisor, and the head nurse of the ward</li> </ul>	ICU, Modarres hospital
8	Services/ patient transporter	Diploma	<ul style="list-style-type: none"> <li>-Facilitating physical conditions for the effective implementation of pain management including the provision and the distribution of pharmaceuticals as well as the provision of physical equipment needed for pain relief (infusion pumps) as the soonest possible time from the ward storeroom</li> </ul>	ICU, Modarres hospital
9	Secretary	BS	<ul style="list-style-type: none"> <li>-Providing the written and electronic documentation requested by the researcher</li> </ul>	ICU, Modarres hospital